

REMARKS

In view of the above amendment, Applicants believe the pending application is in condition for allowance. Claims 1-17 are now present in this application, of which claims 1, 7, and 11 are independent. Amendments have been made to the specification, claims 1, 7, and 11 have been amended, and claims 15-17 have been added. Reconsideration of this application, as amended, is respectfully requested.

Information Disclosure Citation

Applicants thank the Examiner for considering the references supplied with the Information Disclosure Statement filed October 12, 2005, and for providing Applicants with an initialed copy of the PTO-SB08 form filed therewith.

The Examiner has not provided Applicants with an initialed copy of the PTO-SB08 form filed with the Information Disclosure Statement filed December 5, 2006. An initialed copy thereof is respectfully requested from the Examiner in the next Office Action.

Drawings

Applicants thank the Examiner for indicating that the drawings are accepted.

Specification Objection

The Examiner has objected to the specification because of several informalities. In order to overcome this objection, Applicants have amended the specification in order to correct the deficiencies pointed out by the Examiner. In particular, the word "solvent" has been replaced with the phrase "filler metal." Applicants respectfully submit that this terminology is supported because, as described in the specification, the fixing sleeve is fixed to the piston by fusing fixing a fixing member using an applied electric current. *See* page 13, lines 8-15, and page 14, lines 3-14. Reconsideration and withdrawal of this objection are respectfully requested.

Rejection Under 35 U.S.C. § 112, 2nd Paragraph

Claims 7-14 stand rejected under 35 U.S.C. § 112, 2nd Paragraph. This rejection is respectfully traversed.

The Examiner has set forth certain instances wherein the claim language is not clearly understood. In order to overcome this rejection, Applicants have amended claims 7 and 11 to correct each of the deficiencies specifically pointed out by the Examiner. Applicants respectfully submit that the claims, as amended, particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Rejections under 35 U.S.C. §103

Claims 1-6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Choi in view of Tatukawa. Further, claims 7-14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Choi in view of Tatukawa and further in view of Lenton and Henry. These rejections are respectfully traversed.

Complete discussions of the Examiner's rejections are set forth in the Office Action, and are not being repeated here.

Claims 1-6

While not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the instant application, Applicants respectfully submit that independent claim 1 has been amended to recite a combination of elements in a piston assembly including "a hollow cylinder-shaped magnet sleeve having a magnet(s) bonded on external circumferential surface thereof," "a hollow cylinder-shaped piston inserted into a hollow space of the magnet sleeve," and "a hollow disc-shaped ring fixed to the piston by a shrink fitting process, and welded to the magnet sleeve which is made of the same material as the ring so as to obtain a configuration of the piston assembly in which the magnet sleeve and the piston are coupled to each other, wherein an edge side circumferential surface of the magnet sleeve and an inner peripheral surface of the ring contact so as to be welded to each other." (Emphasis added).

Applicants respectfully submit that this combination of elements as set forth in independent claim 1 is not disclosed or made obvious by the prior art of record, including Choi and Tatukawa.

Applicants respectfully submit that Choi fails to show or describe the claimed relationship. In particular, as seen in Fig. 2, which the Examiner appears to have added a label "Prior Art" that was not part of the original figure, Choi discloses a piston assembly for a linear compressor including a magnet holder 35 having a cylindrical body including an inner surface and an outer surface. Choi also discloses a linking member 31 that joins the magnet holder 35 to the piston 20. As clearly shown in Fig. 2, it is an exterior surface of the linking member 31 that is joined to an inner surface of the cylindrical magnet holder 32.

By contrast, as best seen in the call-out in FIG. 5 of the present application, the edge of the magnet sleeve 420 and an inner peripheral surface of the piston ring 440 contact so as to be welded together.

Tatukawa was relied on for a teaching unrelated to the deficiency identified above with respect to Choi. Therefore, any hypothetical combination of Choi and Tatukawa would fail to teach or suggest all features of the claimed invention set forth in independent claim 1. Therefore, Applicants respectfully submit that the combination of elements as set forth in independent claim 1 is not disclosed or made obvious by the prior art of record, including Choi and Tatukawa, for the reasons explained above. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

With regard to dependent claims 2-6, Applicants submit that claims 2-6 depend, either directly or indirectly, from independent claim 1, which is allowable for the reasons set forth above, and therefore claims 2-6 are allowable based on their dependence from claim 1, as well as for their additionally recited subject matter. Reconsideration and allowance thereof are respectfully requested.

Claims 7-10

While not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the instant application, Applicants respectfully submit that independent claim 7 has been amended to recite a combination of elements in a piston assembly including "a

hollow cylinder-shaped magnet sleeve having a bent portion inwardly bent at one end of a hollow space thereof, and a magnet bonded on an external circumferential surface thereof,” “a hollow cylinder-shaped piston insertedly equipped in the hollow space of the magnet sleeve and having a fixing member-inserting hole formed in a flange part thereof,” and “a fixing member fusion-fixed to the magnet sleeve by an applied electric current, and functioning as a filler metal to fix the bent portion of the magnet sleeve and the flange part of the piston to each other, and the fixing member contacting on the outer surface of the bent portion, wherein the flange part of the hollow cylinder-shaped piston and the bent portion of the hollow cylinder-shaped magnet sleeve are made of different materials, and the flange part is thicker than the bent portion.”

Applicants respectfully submit that this combination of elements as set forth in independent claim 7 is not disclosed or made obvious by the prior art of record, including Choi, Tatukawa, Lenton, and Henry.

As noted above, the linking member 31 of Choi is a separate piece from the magnet holder 35. Consequently, the linking member 31 cannot be the claimed bent portion of the magnet sleeve.

In addition, Applicants respectfully submit that Tatukawa fails to show or describe a flange portion of a piston that is made of a different material than a magnet holder and that the thickness of the flange portion is greater than the thickness of the magnet holder, as required by amended claim 7.

As shown in Fig. 2, Tatukawa discloses a magneto rotor having a casing 1 affixed to a hub 3 by rivets 2. The hub 3 is designed to be drivingly connected to the crankshaft of an internal combustion engine. *See* col. 3, lines 58-60. Four magnets 4 are held against the casing 1 by an annular magnet retainer 5. *See* col. 4, lines 9-16. The Office Action asserts that the casing 1 corresponds to the claimed sleeve, and that the hub 3 corresponds to the piston having a flange and based on this configuration, that it would have been obvious to combine Choi and Tatukawa. Applicants respectfully disagree because such a combination would require that the linking member 31 be converted from a separate piece to a piece of the magnet holder 35. Then, a flange would have to be added to the piston 20 so that it could engage the linking member 31. And finally, it would be necessary to add rivet holes to both the newly added flange and the converted linking member 31.

Applicants respectfully submit that one of ordinary skill in the art would not have been motivated to make such a combination, which essentially amounts to the entire replacement of the assembly shown in FIG. 1 of Choi.

Furthermore, there is nothing in Tatukawa that suggests that the thickness of the flange of the hub 3 is greater than the thickness of the casing 1. In addition, as previously noted by the Examiner, Tatukawa discloses that the casing 1 and the hub 3 are made of the same material.

Moreover, as noted in the Office Action, the rivet 2 of Tatukawa extends through the flange of the hub 3 and the casing 1. As such, the rivet 2 of Tatukawa does not contact on the outer surface of the bent portion as required by independent claim 7.

Finally, Applicants note that the magneto rotor of Tatukawa is not analogous to the piston assembly of Choi. In particular, the magneto rotor of Tatukawa rotates about an axis while the piston of Choi is linearly displaced in a compressor.

None of the other references relied on by the Examiner were cited to address the above deficiencies. Therefore, Applicants respectfully submit that the combination of elements as set forth in independent claim 7 is not disclosed or made obvious by the prior art of record, including Choi, Tatukawa, Lenton, and Henry, for the reasons explained above. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

With regard to dependent claims 8-10, Applicants submit that claims 8-10 depend, either directly or indirectly, from independent claim 7, which is allowable for the reasons set forth above, and therefore claims 8-10 are allowable based on their dependence from claim 7, as well as for their additionally recited subject matter. Reconsideration and allowance thereof are respectfully requested.

Claims 11-14

While not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the instant application, Applicants respectfully submit that independent claim 11 has been amended to recite a combination of elements in a piston assembly including "a hollow cylinder-shaped magnet sleeve having a bent portion inwardly bent at one end of a hollow space thereof, and a magnet(s) bonded on an external circumferential surface thereof, the

bent portion having a fixing member-inserting hole,” “a hollow cylinder-shaped piston insertedly equipped in the hollow space of the magnet sleeve and having a fixing member-inserting hole formed in a flange part thereof,” and “a fixing member fusion-fixed to the magnet sleeve by an applied electric current, and functioning as a filler metal to fasten the bent portion of the magnet sleeve and the flange part of the piston to each other, wherein the flange part of the hollow cylinder-shaped piston and the bent portion of the hollow cylinder-shaped magnet sleeve are made of different materials, and the flange part is thicker than the bent portion.”

Applicants respectfully submit that the combination of elements as set forth in independent claim 1 is not disclosed or made obvious by the prior art of record, including Choi, Tatukawa, Lenton, and Henry, for the reasons explained above with reference to claims 7-10. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

With regard to dependent claims 12-14, Applicants submit that claims 12-14 depend, either directly or indirectly, from independent claim 11, which is allowable for the reasons set forth above, and therefore claims 12-14 are allowable based on their dependence from claim 11, as well as for their additionally recited subject matter. Reconsideration and allowance thereof are respectfully requested.

Claims 15-17

Claims 15-17 have been added for the Examiner's consideration. Applicants submit that claims 15-17 depend, either directly or indirectly, from one of independent claims 1, 7, and 11, and are therefore allowable based on their dependence from claim 1, 7, or 11, which are believed to be allowable.

In addition, claims 15-17 recite further limitations which are not disclosed or made obvious by the applied prior art references. In particular, each claim recites a displaceable rod extending through the hollow cylinder-shaped piston.

Consideration and allowance of claims 15-17 are respectfully requested.

Additional Cited References

Since the remaining references cited by the Examiner have not been utilized to reject the claims, but have merely been cited to show the state of the art, no comment need be made with respect thereto.

CONCLUSION

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Chad D. Wells, Registration No. 50,875, at (703) 205-8000, in the Washington, D.C. area.

Prompt and favorable consideration of this Amendment is respectfully requested.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By


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